

## Updating *Hydrangea* Production and Potential Cultivars®

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For the last 12 years of my academic career, I was part of a team which was involved in evaluating woody plants to use as cut stems, flowers, and fruit for use in the florist industry. During that time, *Hydrangea* was one of a number of genera investigated.

In 1996, the first 20 cultivars were planted at the University of Kentucky Horticulture research farm, Lexington, Kentucky. Most were *H. macrophylla* cultivars. They grew nicely each year and died back to the ground each winter. Each summer there was sporadic flower production. Since nurseries were able to produce flowering plants, it was decided to make sure we could get consistent flower production by growing plants in containers and using cold frames for overwintering them. We were able to produce 10–20 usable blooms per plant when grown in a trade size #5 container (Editor's note: container sizes all refer to trade size). Since we could obtain flowering with protection, the next step was to grow the plants in the ground and cover them with a cold frame which could support shade cloth in the summer and poly in the winter.

In total, around 250 cultivars in five species were evaluated under field conditions during the 20 years. Plants were established at three trial sites in the Commonwealth at Lexington, and the two east/west research stations at Quicksand and Princeton. Only about a tenth of the total was evaluated for production under cover.

Highland Moor was established as a nursery about 8 years ago by my daughter. Since retirement in January 2005, I have assisted her as an unpaid volunteer. The following is how Highland Moor has been producing *Hydrangea* in recent years.

Propagation is similar for the four species grown. Rooting hormone is Woods rooting compound, substrate is Barky Beaver pine bark nursery mix, container is Landmark 25-cell propagation tray, mist cycle is 6 sec/15 min, and mist nozzle is a Agridor 809 Mister.

*Hydrangea arborescens* and cultivar cuttings are taken as softwood cuttings from plants in #1 containers, cut to 2 or 3 nodes with lower leaves stripped, no hormone treatment, and one cutting per tray cell.

*Hydrangea macrophylla* cultivar cuttings are taken as softwood or hardwood cuttings from June to November from plants in #5 containers. Shoots are long enough to provide 3 or 4 two-node cuttings per stem. Foliage is removed from the lower node and treated as a quick dip with a dilution of one part Woods to 19 parts water.

*Hydrangea paniculata* cultivars are taken as softwood and hardwood cuttings from plants in #5 containers. Shoots provide several 2- or 3-node cuttings. Foliage is removed from the lower nodes and the remaining terminal foliage is cut in half before being treated as a quick dip with a dilution of one part Woods to 19 parts water.

*Hydrangea quercifolia* cultivars are taken as softwood cuttings from #1 containers as they are pruned to encourage branching. Cuttings are generally 3-node cuttings where the foliage is removed from the lower nodes and the remaining termi-

nal foliage is cut in half before being treated as a quick dip with a dilution of 1 part Woods to 19 parts water.

Once cuttings are rooted, the flats are sold as liners or are transplanted into #1 or #2 containers depending on market channel. Substrate is also the Barky Beaver pine bark nursery mix. Containers have been from Nursery Supplies Inc. or ITML Horticultural Products. Irrigation is drip with 17-mm supply lines, Netafim 4-way multi-outlet drippers (MOD) using angle arrow drippers and Woodpecker pressure compensating junior drippers. A short angle arrow dripper is used on #1 containers and a long arrow dripper is used on #2 containers.

Trade size #1 containers are transplanted to #3 containers. Irrigation is supplied by Netafim yellow spray stakes. Two different systems are used. One system has lateral lines to the stake coming directly from the supply line without pressure compensation. The other system uses a Woodpecker pressure compensating junior dripper at the end of a lateral line coming from the supply line. This dripper has an MOD with two lateral lines going to individual stakes in adjoining rows.

Trade size #1 containers are transplanted to #5 containers and #2 containers are transplanted to #7 containers. Both the #5 and #7 containers are on a drip system. The system is not pressure compensating and uses the double assembly Agridor 4463 spray nozzles.

Trade size containers #2, #3, #5, and #7 are offered to the retail and landscape trades. Highland Moor cut stem production is in the ground or in #5 containers.

About 15 cultivars from three genera are grown for cut stems. Somewhat unique for Highland Moor, cultivars such as *H. arborescens* 'Hayes Starburst'; *H. paniculata* 'Boskoop'; and *H. macrophylla* 'Oak Hill', 'Decatur Blue', 'David Ramsey', and 'Izu-no-hana' are among those grown for the retail and landscape firms.